

NEW SOUTH AMERICAN GASTROPODS IN THE  
GENERA *CONUS* (CONIDAE) AND  
*LATIRUS* (FASCIOLARIIDAE)

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*Abstract.*—Additions to the marine gastropod fauna of South America, including six new species of *Conus* (Conidae) and a new *Latirus* (Fascioliariidae), are described. Two of the new cones, *Conus carioca* n. sp. and *C. riosi* n. sp., range along the northern and eastern coasts of Brazil, while two others, *C. tostes* n. sp. and *C. xanthocinctus* n. sp., are restricted to the Patagonian region of southern Brazil and Uruguay. Two northern South American cones are also described: *C. gibsonsmithorum* n. sp. from the Paraguaná Peninsula, Venezuela, and *C. penchaszadehi* n. sp. from the Goajira Peninsula of Colombia. The new fascioliariid, *Latirus vermeiji* n. sp., is endemic to Fernando de Noronha Island off northern Brazil.

The northern and eastern coasts of South America, in particular Venezuela, Colombia, and Brazil, have recently been shown to harbor atypical Caribbean molluscan faunas with archaic appearances (Vermeij 1978:231-235; Petuch 1981). Through the works of Venezuelan authors, such as Gibson-Smith, Penchaszadeh, Princz, and Flores, the gastropod fauna of that coastline is now becoming better known. The Brazilian coast, on the other hand, is still poorly known, with the compendium of Rios (1975) being the only comprehensive faunal guide to that area.

Through the kindness of several South American malacologists, including Sr. Luiz Roberto Tostes, Rio de Janeiro, and Prof. E. C. Rios, Rio Grande do Sul, Brazil, and Dr. Pablo Penchaszadeh, Universidad Simon Bolivar, and Dr. and Mrs Gibson-Smith, Caracas, Venezuela, I was given study material of interesting new species from their respective countries. These unusual new gastropods include, amongst others, six new species of *Conus*. Dr. Geerat Vermeij, University of Maryland, has also kindly donated a number of specimens of a new *Latirus* from Fernando de Noronha Island off the

northern Brazilian coast. These were collected during a research trip to the island in 1968. These important new additions to the fauna of South America are described here.

Gastropoda  
Neogastropoda  
Fascioliariidae  
*Latirus* Montfort, 1810  
*Latirus vermeiji*, new species  
Figs. 3, 4

*Material examined.*—Holotype: Length 25 mm, width 13 mm, on rocks at low tide line, south coast of Fernando de Noronha Island, Brazil, 1968, number 14243, type collection of the Museu Oceanográfico Centro de Ciencias do Mar, Fundação Universidade do Rio Grande, Brazil; Paratypes: length 27 mm, same locality and date as holotype, collection of the Division of Mollusks, National Museum of Natural History, Smithsonian Institution, USNM 784685; three specimens, lengths 15-26 mm, collection of Geerat J. Vermeij, Department of Zoology, University of Maryland.

*Description.*—Shell fusiform in outline, spire protracted; siphonal canal short for

genus; adults with 8 whorls; sculpture consisting of 8–10 large spiral cords with finer threads in between; whorls with 8–9 prominent axial ribs; shoulder sharply angled, producing faint knob at posterior end of each rib; columella with 3 large plications; outer lip with numerous lirae; lirae extending into aperture; siphon slightly umbilicate; shell uniformly deep orange colored; interior of aperture white; periostracum and operculum dark brown.

*Etymology.*—Named for Dr. Geerat J. Vermeij, of the University of Maryland, who collected the type material on Fernando de Noronha.

*Distribution.*—Endemic to the island of Fernando de Noronha off northern Brazil.

*Discussion.*—This new species somewhat resembles a stumper version of the Abrolhos Islands endemic, *Latirus ogum* Petuch, 1979, but differs in having a much shorter siphonal canal and more angled shoulder. In these last two characters, *L. vermeiji* resembles a small *Leucozonia* species. The new species is a true *Latirus*, however, in that it lacks the tooth on the outer lip and the color banding of that fasciolariid genus. Interestingly enough, *Latirus vermeiji* is morphologically closer to the Panamic *L. socorroensis* Hertlein and Strong, 1951, which is also endemic to offshore island groups.

Conacea

Conidae

*Conus* Linnaeus, 1758

*Conus carioca*, new species

Figs. 1, 2

*Material examined.*—Holotype: Length 52 mm, width 24 mm, trawled by commercial fishermen from 100 m depth off Cabo Frio, Rio de Janeiro State, Brazil, 1975, collection of the Museu Oceanográfico de Fundação Universidade de Rio Grande do Sul #20-915; Paratypes: length 45 mm, same locality and depth as holotype, Museu Oceanográfico #20-915; 2

specimens, lengths 53 mm and 53 mm, trawled by Brazilian fisheries research vessel, from 150 m depth off Recife, Pernambuco, Brazil, 1968, Museu Oceanográfico #14-242; length 57 mm, same depth and locality as holotype, collection of the Division of Mollusks, National Museum of Natural History, Smithsonian Institution USNM 784686.

*Description.*—Shell elongate, straight-sided, smooth and shiny, shoulder sharp-edged, carinated; spire flattened but slightly protracted in early whorls; color white with revolving bands of bright orange and orange-pink; orange bands overlaid with rows of pale brown dots and dashes; mid-body with white band; central white band bordered on both sides by bands of dark brown flammules; spire pale orange with crescent-shaped brown flammules; interior of aperture pale salmon; periostracum thin, smooth, translucent brown; operculum small, oval in shape.

*Etymology.*—Named for the “cariocas,” the inhabitants of Rio de Janeiro.

*Discussion.*—*Conus carioca* most closely resembles the deep water, slope species *C. villepini* Fischer and Bernardi, 1857. The new continental shelf species differs from its slope-inhabiting relative in being more elongate, in having a much flatter spire, and in being a much more colorful shell, with bands of bright orange and salmon-pink.

*Conus gibsonsmithorum*, new species

Figs. 5, 6

*Material examined.*—Holotype: Length 20 mm, width 18 mm, trawled by commercial shrimp boats from 35 m depth off north coast of the Paraganá Peninsula, Falcón State, Venezuela, 1978, Museu Oceanográfico #14244; Paratype: length 18 mm, same depth and locality as holotype, USNM 784687.

*Description.*—Shell turnip-shaped, obese, thick and heavy; anterior one-third of shell greatly constricted; body whorl smooth and

shiny, with anterior one-third having heavy grooving and thick spiral cords; aperture very narrow; spire elevated on early whorls, becoming planar on later whorls; shoulder sharp-edged, carinated; slight constriction just below shoulder carina; shell pale cream-yellow colored with pale tan band around middle; spire pale yellow, becoming tan on early whorls; periostracum thin, smooth, translucent yellow.

*Etymology.*—Named for Dr. and Mrs. Jack Gibson-Smith (Jack and Winifred) of Caracas, Venezuela, in recognition of their contributions to Venezuelan malacology.

*Discussion.*—This small new species is the only South American cone shell to have a squat, turnip-shaped body form. In this respect, *C. gibsonsmithorum* most closely resembles *C. sennottorum* Rehder and Abbott, 1951, from the Gulf of Mexico. The new Venezuelan species differs from its northern relative by lacking any spottings or color patterns, by having a more sharply carinated shoulder with sub-shoulder constriction, and by being a smaller, stockier species.

At present, *C. gibsonsmithorum* is known only from the Gulf of Venezuela region, to which it is most probably endemic.

*Conus penchaszadehi*, new species  
Figs. 13, 14

*Material examined.*—Holotype: Length 18 mm, width 9 mm, trawled by commercial shrimpers from 35 m depth off Cabo La Vela, Goajira Peninsula, Colombia, 1974, Museu Oceanográfico #14245.

*Description.*—Shell elongate, thin, fragile; spire elevated; body whorl shiny, totally covered with numerous fine spiral threads; spiral threads becoming coarser at anterior end; shell pinkish-white with scattered orange flammules on body whorl; solid, dark orange band around anterior one-third of body whorl; anterior tip bright pinkish-orange; spire white with crescent-shaped or-

ange flammules; interior of aperture pale salmon-pink; protoconch and early whorls bright orange; periostracum thick, brown, with rows of fine tufts.

*Etymology.*—Named for Dr. Pablo Penchaszadeh, Department of Biology, Simon Bolivar University, Caracas, Venezuela.

*Discussion.*—This distinctive little shell is unlike any other northern South American cone. *Conus penchaszadehi* may be related to *C. attractus* Tomlin, 1937, but differs from that species by having the bright orange color band and flammules and by having finer spiral sculpture. The new Venezuelan species, however, closely resembles pale color forms of the Panamic *C. orion* Broderip, 1833, and may be the Caribbean cognate species.

*Conus penchaszadehi* is only known from off the Goajira Peninsula of Colombia, but it most probably ranges all along the Colombian coast and into the Gulf of Venezuela.

*Conus riosi*, new species  
Fig. 7, 8

*Material examined.*—Holotype: Length 54 mm, width 32 mm, trawled from 50 m depth off Salvador, Bahia State, Brazil, by Brazilian fisheries research vessel R/V RIOBALDO, 1975, Museu Oceanográfico #18757; Paratypes: length 37 mm, same locality and depth as holotype, Museu Oceanográfico #14242.

*Description.*—Shell thick, heavy, wide-shouldered, tapering toward anterior end; spire completely flattened with only first few whorls being protracted; body whorl and spire shiny with waxy feel; shoulder sharp-edged with prominent carina; shells varying in color from yellow to orange with numerous crowded vertical flammules of dark brown or reddish-brown; mid-body with clear white band; white band bordered by, or sometimes covered by, band of dark brown checkers; second band of dark flam-

mules around anterior end; anterior tip bright apricot-orange; spire orange with numerous crescent-shaped dark brown flammules; interior of aperture pale orange; periostracum thin, translucent yellow-brown, with scattered tufts of large hairs.

*Etymology.*—Named for Prof. E. C. Rios, of the Fundação Universidade do Rio Grande, in recognition of his invaluable works on the Brazilian molluscan fauna.

*Discussion.*—This new species is closely related to, and is often confused with, the common, widespread *Conus daucus* Hwass, 1792. The new Brazilian species differs from its Caribbean relative by being a larger, heavier shell, by having a different color pattern with a prominent white or brown central band, and by having an undulating suture on the spire whorls. *Conus riosi* also prefers deeper waters along the southern coast of Brazil, while *C. daucus* generally prefers shallow water reef areas around the Caribbean region. Of the specimens of *C. riosi* examined, none had the deep red-orange color or the rows of tiny spots seen on *C. daucus*.

*Conus daucus* may range only into northern Brazil, since many of the records of that species from further south have turned out to be *C. riosi*. The "*C. daucus*" illustrated by Van Mol, Tursch, and Kempf (1967: plate 7, fig. 2) and that of Rios (1975: Fig. 542) both appear to be referable to the new species.

#### The Patagonian *Conus* Species

The last two new cones described here belong to a distinctive and close-knit species group that is restricted to the cold water Patagonian region, from Santa Catarina, Brazil, to south of Mar del Plata, Argentina. Included in this group are *Conus clenchi* Martins, 1943, *C. tostesi* n. sp., and *C. xanthocinctus* n. sp., from southernmost Brazil, and *C. carcellesi* Martins, 1945, *C. iheringi* Frenguelli, 1946, and *C. platensis* Frenguelli, 1946 from Uruguay and Argentina.

All species in this group have highly polished shells with rounded shoulders, relatively high to protracted spires, and large, mamillate protoconchs. Because of its sharp-angled shoulder and small protoconch, *C. clerii* Reeve, 1844, which is sympatric with *C. clenchi*, *C. tostesi*, and *C. xanthocinctus* along the southern Brazilian coast, does not appear to belong to this group. Instead, *C. clerii* appears to be related to southern Caribbean species such as *C. undatus* Kiener, 1848, *C. cingulatus* Lamarck, 1810, and *C. centurio* Born, 1780.

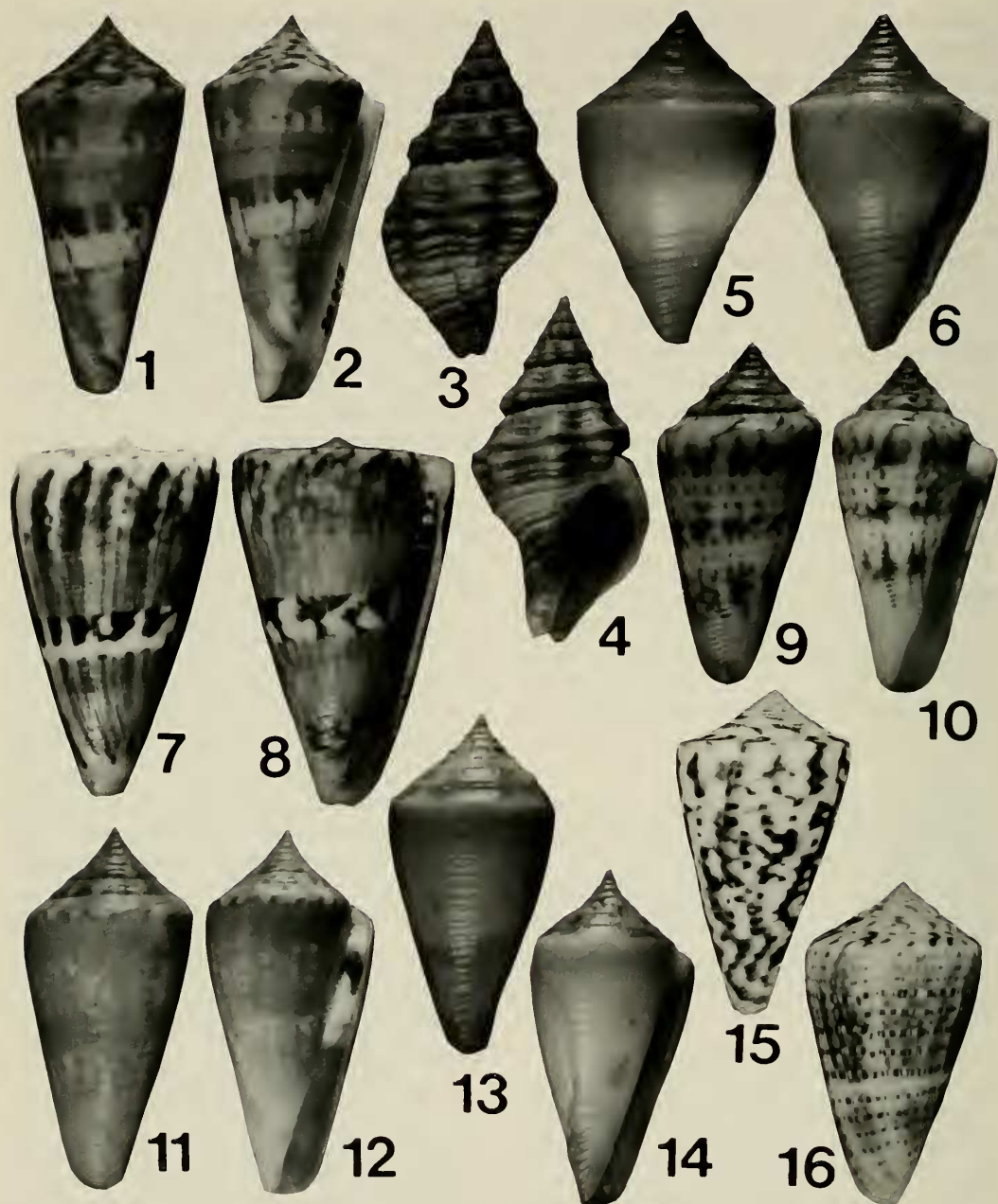
The six Patagonian cones represent remnants of a large cold water molluscan fauna that extended down a large part of the coast of Argentina during the Late Pliocene (Frenguelli 1932). This fauna was typified by conid species such as *C. patagonicus* Frenguelli, 1932, and a large number of interesting volutacean genera that includes *Minicymbiola*, *Odontocymbiola*, *Zidona*, *Adelomelon*, *Pachycymbiola*, *Weaveria*, *Orbignytesta*, *Olivancillaria*, and *Olivina*, and a remarkable trophonine (Muricidae) fauna. Descendants of these distinctive species radiations are still extant along the Patagonian coast, with the greatest number of species being found from southernmost Brazil to, and into, the Mar del Plata. In the Recent, the descendant Patagonian cones represent the southernmost limit of the family in the Americas.

#### *Conus tostesi*, new species

Figs. 9, 10

*Material examined.*—Holotype: Length 35 mm, width 18 mm, trawled by commercial fishermen from 100 m depth off Cabo Frio, Rio de Janeiro State, Brazil, 1977, Museu Oceanográfico #14246; Paratypes: length 29 mm, same locality and depth as holotype, Museu Oceanográfico #14247; length 27 mm, USNM 784688.

*Description.*—Shell elongate, thin fragile;



Figs. 1-16. Species of *Latirus* and *Conus* from South America. 1, 2, *Conus carioca*, dorsal and ventral aspects of holotype; 3, 4, *Latirus vermeiji*, dorsal and ventral aspects of holotype; 5, 6, *Conus gibsonsmithorum*, dorsal and ventral aspects of holotype; 7, 8, *Conus riosi*, dorsal and ventral aspects of holotype; 9, 10, *Conus totesi*, dorsal and ventral aspects of holotype; 11, 12, *Conus xanthocinctus*, dorsal and ventral aspects of holotype; 13, 14, *Conus penchaszadehi*, dorsal and ventral aspects of holotype; 15, *Conus clerii* Reeve, 1844, specimen from 100 m off Cabo Frio, Rio de Janeiro State, Brazil; 16, *Conus clenchi* Martins, 1943, specimen from 100 m off Cabo Frio, Rio de Janeiro State, Brazil.

spire protracted, slightly scalariform; body whorl shiny, with anterior one-third covered with numerous fine spiral threads; shoulder produced but slightly rounded; color pale violet to darker violet with three wide bands of reddish-brown, one just below shoulder, one around mid-body, and one around anterior end; banded color pattern overlaid by 10–14 rows of brown dots; anterior tip darker violet on some specimens; spire white with numerous crescent-shaped flammules; protoconch large, mamillate; periostracum thin, smooth translucent yellow.

*Etymology.*—The new taxon honors Sr. Luiz Roberto Tostes of Rio de Janeiro, Brazil, who kindly donated large amounts of material for study.

*Discussion.*—*Conus tostesi* is closest to the sympatric *C. clerii* Reeve, 1844, but differs in being a much smaller, more elongate shell, by having a higher, scalariform spire, by being of a violet color instead of white, and by having a much larger, mamillate protoconch. A typical specimen of *C. clerii*, from the type locality of *C. tostesi*, is illustrated here for comparison (Fig. 15).

This new Brazilian species actually shows a closer affinity to some of the rare Paolinian-Submagellanic species such as *C. carcellesi* Martins, 1945 and *C. platensis* Frenguelli, 1946 from the Mar del Plata (Frenguelli 1946). *Conus tostesi* differs from both of these species, however, by having a three-banded color pattern, finer body sculpture, and by lacking spiral grooves on the spire.

*Conus xanthocinctus*, new species

Figs. 11, 12

*Material examined.*—Holotype: Length 47 mm, width 22 mm, trawled by commercial fishermen from 100 m depth off Cabo Frio, Rio de Janeiro State, Brazil, Museu Oceanográfico #14248; Paratype: Length 45 mm, same locality and depth as holotype, Museu Oceanográfico #14249.

*Description.*—Shell elongate, slender, thin and fragile; spire protracted, stepped; body whorl and spire smooth, shiny; shoulder only slightly produced, rounded, anterior end of shell with few weak spiral striae; aperture narrow; shell color bright golden-yellow with three darker, orange-yellow bands, one just below shoulder, one around mid-body, and one around anterior end; mid-body band darkest, deep orange colored; bands overlaid with 12–14 spiral rows of brown dashes and scattered white flammules; spire golden-yellow with numerous crescent-shaped tan flammules; shoulder and suture of spire whorls ornamented with bands of alternating dark tan and white flammules; interior of aperture pale golden colored; periostracum thin, smooth, translucent yellow; operculum small, oval.

*Etymology.*—“Yellow-belted,” in reference to the characteristic and distinctive bright orange-yellow band around the mid-body.

*Discussion.*—This distinctive new species could only be confused with the sympatric *C. clenchi* Martins, 1943, and then only in general shell shape. The bright golden color bands and characteristic shoulder coloration readily separates *C. xanthocinctus* from *C. clenchi*. A typical specimen of *C. clenchi*, from the type locality of *C. xanthocinctus*, is illustrated here for comparison (Fig. 16).

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